Entry not approved.
Do not enter.
/CL/ 3-23-09

AMENDMENT TO THE CLAIMS

1. (currently amended) A method of addressing in a quantum network which includes ~~at least three~~N nodes with a star-configuration, wherein N is larger than 3, the method comprising steps of:

appointing each node an address serial number;

determining by a source node a transmission wavelength from a lookup table which is formed of the address serial number of each node and the transmission wavelength used between every two nodes, wherein when the number of nodes in the quantum network is odd, the total number of said transmission wavelengths is N; when the number of nodes in the quantum network is even, the total number of transmission wavelengths is N-1;

transmitting from the source node to a destination node an optical quantum state signal on the determined wavelength; and

~~sending photon signals having different wavelengths from each node to other nodes, wherein each of the photon signals regards signal source wavelength and node address serial number as an addressing badge, said addressing badge is made up of two parts, one part is determined by the wavelength of the photon signal which the node sends, the other part is determined by the address serial number of the node; and~~

determining, by ~~each~~the destination node, the source of the received optical quantum state signal from a lookup table by using the transmission wavelength of the received optical quantum state signal~~where the photon signals come from by using the addressing badges of the photon signals~~.

Claims 2-3 (canceled).

4. (currently amended) A router in a quantum network which includes N nodes with a star-configuration, wherein N is ~~equal to or~~ larger than 3 and each node is appointed an address serial number, the router comprising:

N optical components each comprising a mix wavelength interface which is an external interface of the router, and

at least N-1 separate wavelength interfaces;, wherein every separate wavelength interface transmits different ~~photon~~optical quantum state signals having different wavelengths, and each of separate wavelength interfaces of different optical components, which transmit the same wavelength signals, are directly coupled to one another; and

lookup table at each node which stores the address serial number of each node and the transmission wavelength used between every two nodes, wherein when the number of nodes in the quantum network is odd, the total number of said transmission wavelengths is N; when the number of nodes in the quantum network is even, the total number of said transmission wavelengths is N-1;

wherein, a source node is adapted to determine a transmission wavelength from a lookup table and transmit to a destination node an optical quantum state signal on the determined wavelength through an optical connection, and the destination node is adapted to determine the source of the received optical quantum state signal from a lookup table by using the transmission wavelength of the received optical quantum state signal ~~so as to route the photon signals with different wavelength transmitted by one node to other nodes by using an addressing badge, said addressing badge is made up of two parts, one part is determined by the wavelength of the photon signal which the node sends, the other part is determined by the address serial number of the node~~.

5. (canceled).

6. (previously presented) The router of claim 4, wherein said optical component is made up of integrated or separate dispersive and accessorial passive optical components.

7. (previously presented) The router of claim 4, wherein said optical component is reversible wavelength division multiplexer.

8. (previously presented) The router of claim 4, wherein said optical connection is achieved via fiber, wave-guide, free space or other optical medium.

9. (currently amended) The router of claim 4, wherein ~~said optical connection can add~~ collimating, coupling or reflecting optical passive components are added in the optical ~~path~~connection to improve the optical capability of the connection.

10. (currently amended) The router of claim 49, wherein said optical components of the router, include dispersive, collimating, orienting or coupling components, are integrated with wave-guide substrate totally or partially.